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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Application Number: 09/745,320
Filing Date: December 21, 2000
Appellant(s): BALLONI ET AL.

MAILED

FEB 27 2006

Technology Center 2100

Marcus A. Burch
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed December 5, 2005 appealing from the Office action mailed April 4, 2005.

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(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

This appeal involves claims 1-76.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows: 35 U.S.C § 112, second paragraph rejections of claims 1, 17, 29, 64, 66 and 74 are withdrawn.

WITHDRAWN REJECTIONS

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner. The 35 U.S.C § 112, second paragraph rejections of claims 1, 17, 29, 64, 66 and 74 are withdrawn.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

U.S Patent No. 5,715,823

Wood et al

Filed September 25, 1996

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. Claims 1, 17, 29, 64 & 74, as amended, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, Examiner finds the wording “substantially real time”, (pending Claims 1, 17, 29, 64 & 74), to be indefinite, requiring correction of the same. For current examination purposes, said portions of the

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claim language will be ignored, and the claim(s) will be examined as though the indefinite portions were absent from the same.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Original Claims 1-4, 7-8, 10-11, 17-18, 21, 23-24, 26-27, 46-47 & 52-53, and New Claims 62, 66, 71, 73 are rejected under 35 U.S.C. 102(b) as being anticipated by Wood et al (US. 5,715,823).

5. Regarding claims 1, 4, 7, 8, 11, 17, 21, 23, 24, 27, 46, 47, 52, 62, 66, 71 & 73, Wood discloses a method, apparatus and computer program (hereinafter collectively referred to as a system) for remote control of an imaging system, e.g., ultrasound system, the imaging system associated with an application model located at a first location and the application model being in communication with the imaging system, the method comprising the steps of:

- providing a first user interface at the first location (fig. 4);
- providing a second user interface, i.e., web browser, at a second location, i.e., HTTP server, in response to a request for remote control of the imaging system at the second location (Col.7, line 37-Col. 8, lines 58); and

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- controlling with the application model, e.g., CGI programs, via at least one of the first user interface and the second user interface (Col. 8, lines 40-58).
6. Regarding claims 2 & 18, Wood discloses a second user interface includes generating the second user interface from the application model (Col. 8, lines 40-58).
7. Regarding claims 3 & 53, Wood discloses a second user interface includes replicating at least a part of the first user interface using the application model to the second location (Col. 8, lines 47-51).
8. Regarding claims 10 & 26, Wood discloses the communications network is selected from a group including an intranet, the internet, a local area network (LAN), a broadband network, a wireless network and a variety of other networks (Fig. 3).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Original Claims 9, 25, 12-16, 28-30, 32-45, 48-51 & 54-58, Amended Claim 31 and New Claims 59-61, 63-65, 67-70, 72 & 74-76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood et al (US. 5,715,823).
11. Regarding Amended Claim 31 and Original Claims 35, 36, 38, Wood discloses a method, apparatus and computer program (hereinafter collectively referred to as a system)

for remote control of an imaging system, e.g., ultrasound system, the imaging system associated with an application model located at a first location and the application model being in communication with the imaging system, the method comprising the steps of:

- providing a first user interface at the first location (fig. 4);
- providing a second user interface, i.e., web browser, at a second location, i.e., HTTP server, in response to a request for remote control of the imaging system at the second location (Col.7, line 37-Col. 8, lines 58); and
- controlling with the application model, e.g., CGI programs, via at least one of the first user interface and the second user interface (Col. 8, lines 40-58);
- automatically updating the first and the second user interfaces in response to at least one command made to the imaging system by at least one of the first and the second user interfaces or in response to at least one response returned from the imaging system (Col. 8, lines 40-58; Col. 9, line 49-67; & Col. 10, lines 1- 9). Examiner notes that a continuous or automatic updating functionality would have been obvious in light of the teachings of Wood, which, in addition to an updating functionality, discloses CGI programs capable of executing tasks in response to input arguments and performing system diagnostics.

12. Regarding claims 37 & 38, Wood discloses the communications network is selected from a group including an intranet, the internet, a local area network (LAN), a broadband network, a wireless network and a variety of other networks (Fig. 3).

13. Regarding Original Claims 5-6, 19-20, 22, 32-34 and New Claims 59, 64, 67 & 74, Wood discloses, (continuous or automatic), updating the first and the second user interfaces in

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response to at least one command made to the imaging system by at least one of the first and the second user interfaces or in response to at least one response returned from the imaging system (Col. 8, lines 40-58; Col. 9, line 49-67; & Col. 10, lines 1-9). Examiner notes that a continuous or automatic updating functionality would have been obvious in light of the teachings of Wood, which, in addition to an updating functionality, discloses CGI programs capable of executing tasks in response to input arguments and performing system diagnostics.

14. Regarding Original claims 9, 25, 54-57 and New Claims 63 & 72, Wood discloses the invention substantially, as claimed, as described, but is silent to including network communication between application model and second user interface, i.e., separation CGI from second station. However, the court held that would have been obvious for any desirable reason to making separable. (MPEP 2144.04 C).

15. Regarding claims 12-14, 28, 39 and 48-51, Wood discloses the invention substantially, as claimed, as described, but silent to having the second location is the first location, i.e., making integral. However, the court held that making integral without producing unexpected results would have been obvious to one skill in the art that was a matter of engineering choice (IM-PEP 2144.04 B).

16. Regarding Original Claims 15-16, 29-30, 40-44 and New Claims 65 & 75, Wood discloses the invention substantially, as claimed, as described, including a remote control concept, which is applicable to any number of remote control station. Thus including a third location or any number of locations would have been obvious to one of ordinary skill in the art that was a matter of choice.

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17. Regarding claim 45, Wood discloses the invention substantially, but does not explicitly include well-known medical diagnostic device such as MRI or NM in the group for controlling remotely, as claimed. However, modifying the system as taught by Wood, which is capable of controlling general imaging apparatus over network to control any other types of medical diagnostic devices would have obvious to one of ordinary skill in the art at the time of the invention was made that a matter of implementation choice (MPEP 2144.04 C).

18. Regarding claim 58, Wood discloses the invention substantially, but does not explicitly include well-known command, as claimed therein. However, by teaching of system capable of providing remote control via graphic user interface from a terminal across a network, in which remotely commanding is inherent, it would have been obvious to one of ordinary skill in the art at the time of the invention was made that, modifying remote-commanding capabilities, for controlling medical devices to perform specific tasks, regardless of detailing, as taught by Wood, would be a matter of choice (MPEP 2144.04 C).

19. Regarding New Claims 60, 68, 69 & 76, Wood discloses the invention substantially, as claimed, as described, but silent to having application model run on a processor separate from the imaging device. However, modifying the system as taught by Wood, which is capable of controlling general imaging apparatus over network via an application model from any processor location would have obvious to one of ordinary skill in the art at the time of the invention was made that a matter of implementation choice (MPEP 2144.04 C).

20. Regarding New Claims 61 & 70, Wood discloses the invention substantially, but does not explicitly enumerate wherein the first user interface and second user interface are updated in real-time based on data from the application model, (Col. 9, lines 60-63 & Col. 12,

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lines 20-23). Examiner notes that Wood specifically teaches both an update functionality as well as a real-time capability, wherein it would have been obvious to update the system in real-time for purposes of accuracy, cohesiveness and consistency when performing remote and local system duties.

(10) Response to Argument

I. Claim Rejections under § 112, second paragraph

Claims 1, 17, 29, 64, 66 and 74 stand rejected under 35 U.S.C § 112, second paragraph as being indefinite. As discussed in section 6 of this Answer, the rejections of these claims are withdrawn.

A. Relative Terminology

Acceptability of the claim language depends on whether one of ordinary skill in the art would understand what is claimed, in light of the specification. MPEP §2173.05(b). A determination is to be made as to whether the specification provides some standard for measuring that degree. Id.

B. Claims 1, 17, 29, 64 and 74

Here, Applicant relies on the terms “at about a same time” [claims 1, 17 and 29] and “substantially real time” [claims 64 and 74] in his claims. Applicant’s specification defines: “Real-time or quasi real-time refers to continuous monitoring, execution, and updating of operator commands and results...”. Applicant’s specification, pg. 11, lines 13-14. Thus, for the

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purposes of this Answer, the Office interprets the claim language “at about a same time” and “substantially real time” consistent with the definition supplied by Applicant’s specification.

Thus, the 35 U.S.C. § 112, second paragraph rejections of claims 1, 17, 29, 64 and 74 are withdrawn.

C. Claim 66

The 35 U.S.C § 112, second paragraph rejection of claim 66 has been withdrawn.

II. Claim Rejections Under § 102 and § 103

Claims 1-76 stand rejected as either anticipated or obvious in light of U.S Patent No. 5,715,823 to Wood et al [“Wood”].

A. Claims 1-30 and 59-65

In regards to claim 1, Applicant argues in substance that Wood does not disclose “controlling the application model using the first user interface and second user interface at about a same time”. See Applicant’s Appeal Brief, page 11, ¶ 3. Applicant takes exception with Wood’s invention, asserting that Wood discloses a system that is controlled only by the remote user interface, and not a second user interface. Id. at ¶ 4.

Applicant’s specification provides the Office guidance on one possible interpretation of the claimed limitation. See MPEP § 2106(II)(C). For example, Applicant discloses a physician located remotely from the imaging system, and a scanner operator at the main console of the imaging system. Applicant’s specification, pg. 11, lines 17-27. The physician and

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the operator see the actions taken by the other as rapidly as possible. Id. Based on this disclosure, the limitation is interpreted as the first user interface corresponding to the interface used by the scanner operator, the second user interface corresponds to a physician remote from the imaging system and the actions of both operator and the physician are updated as rapidly as possible.

Contrary to Applicant's assertion, Wood discloses each and every one of these limitations. Wood discloses that a first interface, as operated by Wood's remote physician, and a second interface, as operated by the operator located on-site at the imaging system, collaborate with one another to control the imaging system [column 12 «lines 20-39»]. Wood discloses that both the physician and the on-site operator may control the device because their requested operations are interleaved together. Thus, Wood discloses that both the first physician's interface and the on-site operator's interface may both control operations of imaging system.

As discussed previously, "at about the same time" is interpreted in a manner consistent with Applicant's specification, which is defined as providing continuous monitoring and updating of operator commands and results as rapidly as possible. Id. In this light, Wood clearly discloses providing physicians and imaging system operators updates and results of their operations in real time [column 12 «lines 20-29»]. Thus, Wood discloses that the interfaces may control the application in "at about the same time".

Therefore, Wood's invention anticipates the limitations as claimed in claim 1. Applicant's arguments do not specifically address claims 2-16, 17-30 and 59-65 so they are not addressed here.

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B. Claims 5, 33, 44 and 59

In regards to claim 59, Applicant argues in substance that Wood does not teach the limitation of a “system configured such that if a change sent to the second user interface to update the second user interface, and such that if a change is made to the application model using the second user interface data is automatically sent to the first user interface to update the first user interface”. See Applicant's Appeal Brief, pg. 7, ¶2. However, based on Wood's disclosure, one of ordinary skill in the art would have been motivated to modify Wood to disclose the claimed limitations.

Applicant's specification provides guidance on one possible embodiment of the claimed limitation. It should first be noted that Applicant's specification provides no disclosure of an automatic updating function between user interfaces. Thus, the Office must go beyond Applicant's specification and is allowed to interpret the automatic update function as it would be by one of ordinary skill in the art. See MPEP § 2106(II)(C) (“In such a case [where Applicant has not provided disclosure of the elements] the elements will be construed as encompassing any and every art-recognized hardware or combination of hardware and software technique for implementing the defined requisite functionalities”).

In this regard, the Office looks to another embodiment of Applicant's invention where Applicant discloses a physician located remotely from the imaging system and may monitor the actions of a scanner operator at the main console of the imaging system.

Applicant's specification, pg. 12, lines 20-29. The use of an automatic update function is somewhat suggested by Applicant's disclosure that there may be “continuous monitoring”.

Id. at pg. 11, line 13.

Based on this disclosure, the limitation, in essence, can be interpreted as providing a means for one user, remote from the imaging system, to continuously monitor a second user, located at the imaging system. The ability to continuously monitor suggests the need to automatically update both interfaces as both the physician and operator need to see exactly what each other sees in order for the system to be effective.

In this light, Wood discloses a physician, remote from an imaging ultrasound system, and an operator of the system, located at the imaging system [column 11 «lines 50-59» | column 12 «lines 8-29»]. The two users communicate one another over the Internet, using both audio and video information [column 11 «lines 56-63»]. Wood discloses a collaborative system between the physician and the operator, allowing the physician to provide instruction to the operator on site.

Therefore, it seems obvious to one of ordinary skill in the art that both the physician and the operator must share the same view of the imaging system in order for the Wood's invention to be properly carried out. That is, while Wood does not expressly that updates are automatically sent between each of the users, the automatic updating functionality between the physician and the operator seems inherent and necessary for the physician and operator to work together; the physician should be able to see what the operator sees and the operator should see what the physician sees. One of ordinary skill in the art would realize that an automatic updating means between the interfaces is thus inherent to the system.

Additionally, Wood discloses transmitting a first physician graphically modifying an image, the new image stored as an update, and transmitting the update to a second physician

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located remote from both the first physician [column 10 «lines 34-37»]. Thus, the second physician receives an updated patient report with the graphical changes made to the report by the first physician.

Thus, it would have been obvious to one of ordinary skill in the art that the automatic updating functionality is an inherent feature in Wood's collaborative medical system. Applicant's arguments do not specifically discuss claims 5, 33 and 44 but they are similarly rejected for at least the same reasons set forth above.

C. Claims 31-45

In regards to 31, Applicant argues in substance that Wood discloses a user "need[ing] to specifically request that the system be updated for an update to be sent". Applicant contends that Wood does not teach or even suggest a continuous or automatic update function. Applicant's Appeal Brief, pg. 8, ¶ 6. Applicant's claim is interpreted in light of his specification [see section B above]. It should be noted and as discussed in section B that Applicant's specification is silent as to any continuous or automatic update function. The inherency of an automatic update function is also discussed in further detail in section B.

Wood discloses a physician may monitor the progress of the operation of the ultrasound system [column 12 «lines 23-29»]. Wood does not expressly disclose that updates would be automatic, but Wood's disclosure of monitoring the progress of the ultrasound system suggests the necessity of a continuous or automatic updating functionality. That is, in so modifying Wood to include continuous or automatic updates, Wood's physician who is monitoring the imaging system would continuously receive updates concerning the system.

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Modifying Wood such that the updates would be automatic is clearly desirable to one of ordinary skill in the art; otherwise the physician would have to constantly press the update button in order to monitor the system. As would be clear to one of ordinary skill in the art, and anyone who has, for example, browsed sports scores on ESPN.com, the ability to receive automatic updates over the Internet is a well known feature in the art.

Thus, based on Wood's disclosure, the system of claim 31 is merely an obvious variation of the system described in Wood. Applicant's arguments do not specifically address claims 32-45 so they are not addressed here.

D. Claims 66-76

In regards to claim 66, Applicant argues that Wood does not disclose a collaboratively controlled system and instead discloses a single user. See Applicant's Appeal Brief, pg. 10, ¶ 2. Applicant's specification provides guidance on a proper interpretation of the claim language "collaboratively controlled".

For example, Applicant discloses a physician located remotely from the imaging system, and a scanner operator at the main console of the imaging system. Applicant's specification, pg. 11, lines 17-27. The physician and the operator see the actions taken by the other because they "share" a graphics tool. Id. Based on this disclosure, Applicant's "collaboratively controlled" function is interpreted as a physician remote from an imaging system and an operator located at the imaging system working together and sharing information.

Wood discloses a physician, remote from an imaging ultrasound system, and an operator of the system, located at the imaging system [column 11 «lines 50-59» | column 12 «lines 8-29»]. The two users communicate with one another over the Internet, using both audio and video information [column 11 «lines 56-63»]. Thus, Wood discloses a collaborative system between the physician and the operator, allowing the physician to provide instruction to the operator on site. Thus, Wood discloses a system that may be collaboratively controlled by the physician and the local operator on site.

In regards to claim 67, Applicant argues that Wood does not disclose automatically updating the interface between the actions of a first and second user interface. This argument is addressed in section B, in regards to claim 31.

In regards to claim 69, Applicant argues that Wood does not disclose a first and second interface located remotely from the application model. As discussed in section A, in regards to claim 1, Wood clearly discloses multiple physicians able to remotely access the imaging system [column 12 «line 63» to column 13 «line 5»].

Thus, Wood discloses the limitations as claimed. Applicant's arguments do not specifically address dependant claims 68 and 70-76 so they are not addressed here.

E. Claims 12, 27, 39 and 50

In regards to claim 50, Applicant argues that Wood does not disclose or suggest a first location and a second location that are proximate to one another. However, Wood discloses that one advantage of his invention is that it allows an imaging system to be accessible from "virtually any remote location" [abstract]. More specifically, imaging systems "can be

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remotely accessed, interrogated or controlled from virtually any place on the globe to provide information about its operating characteristics, patient images and reports, or even for remotely controlled system operation” [column 1 «lines 40-45»]. Thus, while Wood does not expressly disclose the user interfaces being located proximately to one another, Wood does disclose that they can be placed anywhere on the globe.

It seems unreasonable and contrary to Wood’s goal to limit Wood’s invention by stating that his invention does not disclose or even suggest that the user interfaces may be located proximate to another. It would have been obvious to one of ordinary skill in the art to modify Wood to place the user interfaces in locations proximate to one another as it would be consistent with Wood’s goal of allowing physicians to be virtually anywhere in the world, including proximate to the imaging system.

Thus, Wood discloses the limitation as claimed. Applicant’s arguments do not specifically address claims 12, 27 and 39 so they are not addressed here.

F. Claims 46-58

In regards to claim 46, Applicant argues that Wood does not teach “providing an update to both a first user interface and a second user interface (both at different locations than the imaging system) in response to a command from one of the first and second user interfaces”. Applicant’s Appeal Brief, pg. 6, ¶1. Applicant reiterates his characterization that Wood is merely directed towards a single user interface and that there is no collaborative control between two remote terminals. Id at ¶ 2. Applicant asserts, in essence, that only one physician may interact with the application model. See Applicant’s Appeal Brief, page 11, ¶ 4.

However, this characterization of Wood seems entirely contrary to the specification of and advantages supplied by Wood's invention.

Wood thoroughly discusses the benefits of utilizing the Internet in his invention; one of the primary advantages being that it "provides users with a distributed menu system" and this menu system can be "displayed to users through which the user can easily request information from another computer, or host [column 4 «lines 45-48»]. More expressly, Wood discloses that his server allows a plurality of users to remotely access the ultrasound system over the Internet [column 3 «lines 26-29»]. Wood clearly contemplates the usefulness of the Internet as being able to provide multiple users access to another computer, not just one. The usefulness of the Internet is expressly utilized by Wood to provide multiple computers (interfaces) access to the imaging systems [Figure 17 «item 100 and "personal computer"» | column 12 «line 63» to column 13 «line 5»].

Wood also discloses that each computer will utilize a browser interface to control and interact with the imaging system through the use of CGI programs [column 8 «lines 47-65» | column 9 «lines 11-20» | column 12 «lines 30-62»]. Wood's CGI programs are interpreted by the Office as corresponding to the claimed "application model". Thus, Wood's users (physicians), in order to access the images and patient reports must control the CGI programs, which in turn, are in communication with the imaging system [column 12 «line 63» to column 13 «line 5»].

Wood discloses that the purpose of his invention is to allow "physicians to remotely access, control, and perform diagnoses using their ultrasound systems over a network such as the World Wide Web with no special hardware requirements" [abstract]. Based on these

remarks, Wood discloses controlling the application model (CGI programs) using the first user interface and a second user interface (multiple physicians using a separate browser to access the imaging system).

Applicant further contends that Wood teaches “updating information on a remote terminal based on a request from the remote terminal to update the information, and not based on commands made by a different remote terminal”. Applicant’s Appeal Brief, pg. 6 ¶ 2. Contrary to this contention, Wood clearly discloses one remote terminal that may edit or modify a patient report by using graphics features to circle, draw or point to specific features on the image [column 10 «lines 28-40»]. The new patient reports with the new images may be stored at the local server and accessible to other remote physicians [column 12 «line 63» to column 13 «line 5»].

In essence, the new images that are edited by the physician correspond to the claimed “interface update” of claim 46, as the “interface update” includes “data representative of the image”. That is, a first physician may circle or draw on a patient report. This new report and the edits represent an update of the old report. The new report may then be stored and provided as an update to a second physician located at a remote second terminal interface. The new images are provided as updates to the interface of any other remote physician, including a first interface of the physician who modified the image, and a second interface of a remote physician.

Thus, Wood discloses the limitations of claim 46. Applicant’s arguments do not specifically address dependant claims 47-58 so they are not addressed here.

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(II) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.


For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Dohm Chankong

February 16, 2006

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